

A NEW SPECIES OF LITARACHNA FROM THE BRITISH WEST INDIES(ACARINA: PONTARACHNIDAE)¹DAVID R. COOK, *Department of Biology, Wayne State University, Detroit, Mich.*

While studying the parasites of gobiid fishes at the Lerner Marine Laboratory of the American Museum of Natural History, Bimini, B.W.I., during December 1955, Dr. Dominic L. DeGiusti collected specimens of the mites described in this paper. A marine hydrachnid was found in the digestive tract contents of two fishes belonging to the genus *Bathygobius*. Each was so freshly swallowed that they were still moving about. These two mites, a male and a female, belong to a new species of *Litarachna* distinct enough to necessitate establishing a new subgenus. They are the first members of the family Pontarachnidae recorded from eastern North America. A species belonging to a related genus, *Pontarachna cruciata*, was described by Hall (1912) from beach pools in the Laguna Beach area of California.

Genus **LITARACHNA** Walter*Litarachna* Walter, 1926. Internat. Rev. Ges. Hydrobiol. Hydrogr. 14: 32.*Genotype*.—*Litarachna communis* Walter.

Generic diagnosis.—Soft bodied, dorsum without sclerites; capitulum opening ventrally, without a rostrum; posterior apodemes of capitulum broadly spreading; chelicera typical of Hydracarina in general, not styletlike; coxae directed posteriorly, fourth coxae widely separated; fourth coxae with a pair of long narrow projections that flank the genital field; genital acetabula absent; glandularia located between the projections of the fourth coxae with two gland openings and an associated seta; legs without swimming hairs; marine.

Subgenus **PARALITARACHNA**, new subgenus*Subgenotype*.—*Litarachna* (*Paralitarachna*) *degiustii*, new species.

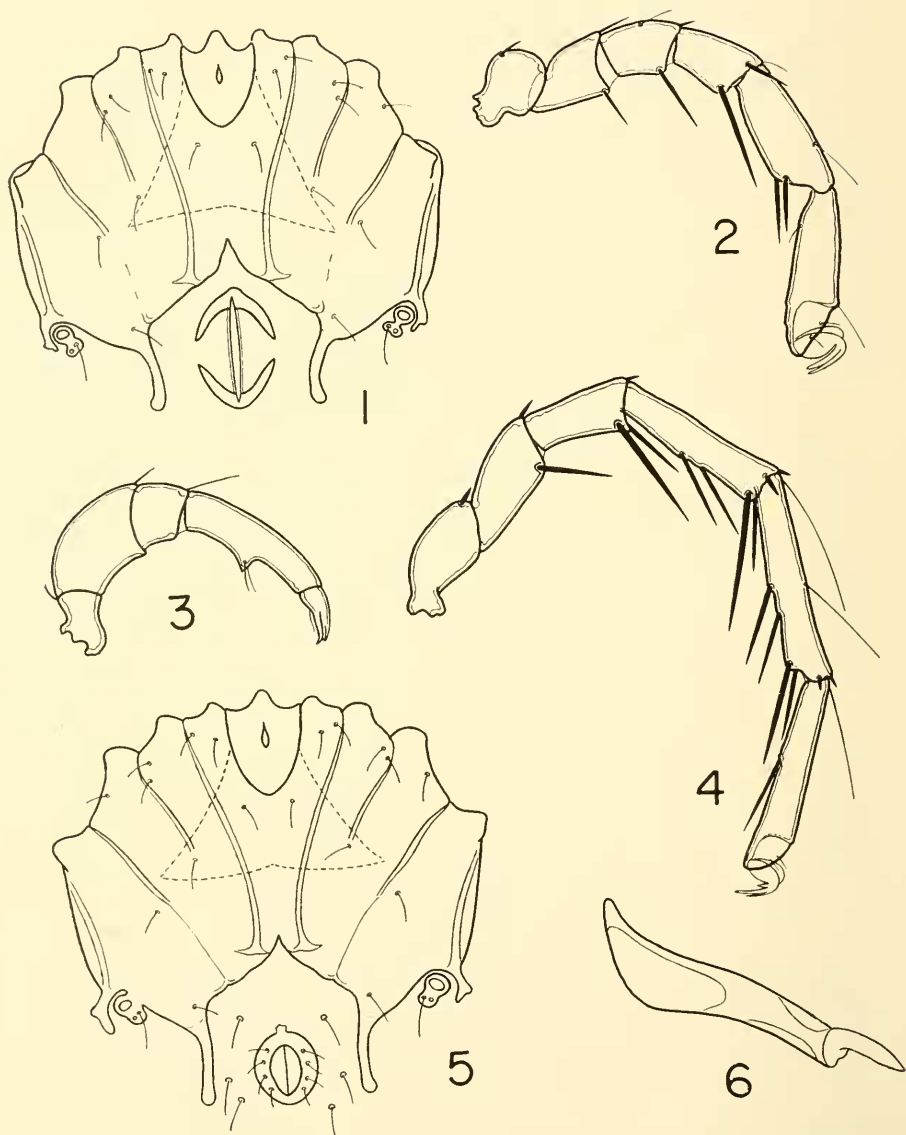
Subgeneric diagnosis.—Differs from *Litarachna s.s.* (and all other known members of the family Pontarachnidae) in having the first pair of coxae fused in the midline.

LITARACHNA (PARALITARACHNA) DEGIUSTII, new species

(Figs. 1-6)

Female.—Length of body approximately 302μ ; length between anterior end of the first coxae and posterior end of projection from the fourth coxae 183μ ; first coxae fused in the midline, apodemes between the first and second coxae distinct along the full length; with a moderate-sized, V-shaped indentation at the posterior end of the first coxae; first coxa with two setae lateral to the capitulum and one seta posterior to the capitulum; second coxae touching each other; apodemes between second and third coxae distinct only in the anterior half; second coxa with two setae in the anterior portion and a single seta located slightly posterior to

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Litarachna (Paralitarachna) degiustii, new species: Fig. 1, Ventral view, female; fig. 2, first leg, female; fig. 3, palp, male; fig. 4, fourth leg, female; fig. 5, ventral view, male; fig. 6, chelicera, male.

the apodeme between the second and third coxae; apodemes between the third and fourth coxae distinct in the anterior half and again at the very posterior end; posterior projections from the fourth coxae approximately 40μ in length, these forming a genital bay that encloses the genital field; lateral surface of the fourth coxae with a shorter projection that partially surrounds the glandularia; glandularia constricted near middle, with one portion bearing a seta and the smaller gland opening, and the other portion bearing the large gland opening.

Genital field, 59μ in length, 40μ in width, consisting of pre- and postgenital sclerites, these not bearing setae; neither genital acetabula nor acetabular plates present; setae not present in the area between the projections of the fourth coxae and the genital field; capitulum 40μ in width at the anterior end; length between anterior end of the capitulum and the posterior end of the capitular apodemes approximately 95μ ; capitular apodemes broadly spreading; dorsal lengths of the palpal segments were: P-I, 17μ ; P-II, 71μ ; P-III, 24μ ; P-IV, 80μ ; P-V, 26μ ; P-IV with a setae-bearing projection on the ventral side similar to that found in *L. duboseqi* Walter; P-V relatively short.

Legs without swimming hairs; dorsal lengths of the segments of the first leg were: I, 38μ ; II, 30μ ; III, 34μ ; IV, 40μ ; V, 61μ ; VI, 76μ ; segments of the first leg relatively stocky, chaetotaxy shown in figure 2; lengths of the segments of the fourth leg were: I, 58μ ; II, 45μ ; III, 52μ ; IV, 83μ ; V, 92μ ; VI, 99μ ; segments relatively thin, chaetotaxy of fourth leg shown in figure 4. *Male*—Length of body approximately 272μ , length between anterior end of the first coxae and the posterior end of the projection from the fourth coxae 192μ ; first coxae fused in the midline; apodemes between the coxae similar to those of female except that the first pair are closer together; glandularia similar to those of female except that they are not greatly constricted in the middle.

Genital field, not including small projection from anterior end, 31μ in length, 29μ in width; genital field consisting of a sclerotized ring bearing four pairs of setae; genital acetabula and acetabular plates absent; with three pairs of setae between the projections of the fourth coxae and the genital field; capitulum 35μ in width at the anterior end, similar to that of female; legs and palps similar in shape and chaetotaxy to those of the female; lengths of the palpal segments were as follows: P-I, 17μ ; P-II, 66μ ; P-III, 23μ ; P-IV, 78μ ; P-V, 26μ ; dorsal lengths of the segments of the first leg were: I, 33μ ; II, 29μ ; III, 35μ ; IV, 41μ ; V, 65μ ; VI, 78μ ; lengths of the segments of the fourth leg were: I, 52μ ; II, 44μ ; III, 50μ ; IV, 78μ ; V, 90μ ; VI, 98μ ; length of chelicera 159μ ; distal half of the end segment of the chelicera minutely serrate. *Types*.—Holotype female, collected by Dominic L. DeGiusti near the Lerner Marine Laboratory, Bimini, B.W.I., during December 1955. Allotype male, same data. Both types will be placed in the Chicago Natural History Museum.

Habitat.—Both mites were recovered from the digestive tract of gobiid fishes collected in relatively shallow water (less than 1 meter) over a bottom composed of a mixture of sand and mud. The lack of swim-

ming hairs on the legs would suggest that these mites are very weak swimmers at best, and spend most of the time on the bottom.

Remarks.—*Litarachna degiustii* may be easily separated from all other members of its genus by the possession of fused first coxae. The present species seems to be most closely related to the Mediterranean species, *L. duboseqi* Walter. The palpi of these two species are very similar, having a short fifth segment and a projection on the ventral side of the fourth segment. The genital field is rather similar in both cases.

REFERENCES

- Hall, H. V. M. 1912. Some marine and terrestrial Acarina from Laguna Beach. Pomona Coll. Annual Rpt. Laguna Marine Lab. 1: 177-186.
- Walter, C. 1926. Marine Hygrobatidae. Revision der Wassermilben-Genera *Pontarachna* Philippi und *Xantarachna* Moniez. Internatl. Rev. Ges. Hydrobiol. Hydrogr. 14: 1-54.

BOOK REVIEW

A REVISION OF THE GENUS PSELAPTRICHUS BRENDÉL (COLEOPTERA: PSELAPHIDAE), by Robert O. Schuster and Gordon A. Marsh. University of California Publications in Entomology, University of California Press, vol. 11, no. 2, pp. 117-158, 74 figs., 5 maps. 1956. \$1.00.

This paper represents a discerning, well expressed taxonomic and distributional account of a genus of beetles which until recently has been nearly overlooked. A combination of several factors are combined in it, creating a noteworthy endeavor in the field of modern systematic entomology.

First, the authors' efforts in collecting and preparing these beetles for study is no small achievement, for the members of the genus are very small creatures (the average length being about 1.50 mm.) which are found only in the accumulated litter of the forest floor. That the beetles are difficult to collect and tedious to study is, I think, best exemplified by the fact that of the thirty-two species now included in the genus, all but three were described either in this paper or in a previous one by these two men.

Next, the data are employed to their fullest extent and are interpreted in terms of present-day theories of systematics. Of special interest, in my opinion, is the section pertaining to speciation and distribution, where the authors' ideas concerning species formation, ecological factors governing distribution, and phylogeny of these beetles are discussed in an appropriately conservative manner.

Lastly, the completeness of the illustrative material appears exceptional. Over seventy figures are presented, which permit the easy comparison of many of the morphological structures which have been employed in the key and descriptions. In addition to these, maps are included which depict the collection localities for each species and which in many instances also indicate the probable range of the species—JEROME G. ROZEN, JR., *Entomology Research Branch, U. S. Department of Agriculture, Washington, D. C.*